AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for multi-objective portfolio analysis and decision-making using visualization techniques~~optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem,~~ the method sequentially comprising:

generating a non-dominated solution set comprising an efficient frontier in ~~a~~ an original portfolio performance space having at least three-dimensions using one of an evolutionary algorithm and optimization processing by using a computing device;

~~applying a first set of~~imposing a sequence of user-specified constraints in at least one of the original portfolio performance space and a portfolio configuration space to reduce ~~the~~ solutions in the non-dominated solution set to an initial solution subset; and

executing a ~~series~~ sequence of ~~local tradeoffs~~Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space having fewer dimensions than the original portfolio performance space to ~~on the solution subset to result in~~produce a resulting solution subset having a fewer number of points than the initial solution subset, ~~the local tradeoffs being performed in a lower dimension performance space as compared to the space, and~~ the resulting solution subset being used in investment decisioning.

2-4. (Canceled)

5. (Currently Amended) The method of claim 1, wherein the ~~first set of~~ user-specified constraints is defined by limits on performance metrics.

6. (Original) The method of claim 5, wherein the performance metrics include risk and return.

7. (Currently Amended) The method of claim 5, wherein the ~~first set of~~ user-specified ~~independent~~ constraints include imposing a lower limit on return and an upper limit on risk.

8. (Currently Amended) The method of claim 5, wherein the ~~first set of~~ user-specified ~~independent~~ constraints include imposing a first range on return and a second range on risk.

9. (Currently Amended) The method of claim 1, ~~wherein the executing a series of local tradeoffs on the solution subset to result in a resulting solution subset includes:~~

~~identifying a most important tradeoff and applying that most important tradeoff to the solution subset, the most important tradeoff being between a subset of performance metrics; and thereafter~~further comprising the step of:

~~identifying a second most important tradeoff and~~

applying ~~that~~ additional~~second~~ user-specified constraints ~~most important tradeoff~~ to the resulting solution subset to produce a final selection.~~, the second most important tradeoff being between a second subset of performance metrics.~~

10-12. (Canceled)

13. (Currently Amended) The method of claim 1, ~~wherein the method further includes applying, on the resulting solution subset, additional constraints by imposing preferences.~~further comprising the step of:

imposing preferences on the resulting solution subset to produce a final selection.

14. (Original) The method of claim 13, wherein the preferences are represented by relative weights on performance metrics.

15. (Original) The method of claim 13, wherein the preferences are represented by relative weights on performance configuration metrics.

16. (Canceled)

17. (Currently Amended) The method of claim [[16]] 1, wherein after ~~executing the series of local tradeoffs in performance configuration space on the solution subset to result in the resulting solution subset~~the imposing step, the method further includes:

applying portfolio configuration metrics based on ~~the~~ a plurality of asset allocations in a portfolio; and

comparing portfolio configuration metrics between a plurality of portfolios.

18-19. (Canceled)

20. (Currently Amended) The method of claim 17, wherein the comparing step includes determining ~~the~~ a required transaction to transform the plurality of asset allocations ~~of an asset class in the~~ in a currently existing portfolio to ~~an~~ a plurality of asset allocations ~~of the asset class~~ in each of the portfolios in the resulting solution subset.

21. (Original) The method of claim 1, wherein the user-specified constraints are one of independent and dependent constraints.

22-25. (Canceled)

26. (Currently Amended) A system for multi-objective portfolio ~~optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem~~analysis and decision-making using visualization techniques, the system comprising:

a solution set generation portion that generates a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions using one of an evolutionary algorithm and optimization processing;

an initial constraint portion that ~~applies~~ imposes a ~~first set~~sequence of user-specified constraints in at least one of the original portfolio performance space and a portfolio configuration space to reduce ~~the~~ solutions in the non-dominated solution set to an initial solution subset; and

a trade-off processing portion that executes a ~~series~~ sequence of ~~local tradeoffs~~Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space having fewer dimensions than the original portfolio performance space to ~~on the solution subset to result in~~produce a resulting solution subset having a fewer number of points than the initial solution subset, the resulting solution subset being used in investment decisioning.

27- 29. (Canceled)

30. (Currently Amended) The system of claim 26, wherein the trade-off processing portion~~:~~

~~identifies a most important tradeoff and applies that most important tradeoff to the solution subset, the most important tradeoff being between a subset of performance metrics; and thereafter~~

~~identifies a second most important tradeoff and applies that second most important tradeoff to the solution subset, the second most important tradeoff being between a second subset of performance configuration metrics.~~ applies additional user-specific constraints to the resulting solution subset to produce a final selection.

31-32. (Canceled)

33. (Currently Amended) The system of claim [[32]] 30, wherein the ~~further user~~ additional user-specific ~~specified~~ constraints are based on structure metrics.

34. (Currently Amended) A computer readable medium for multi-objective portfolio ~~optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem~~analysis and decision-making using visualization techniques, the computer readable medium comprising:

a first portion that generates a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions using one of an evolutionary algorithm and optimization processing;

a second portion that ~~applies~~ imposes a ~~first set~~sequence of user-specified constraints in at least one of the original portfolio performance space and a portfolio configuration space to reduce ~~the~~ solutions in the non-dominated solution set to an initial solution subset;

a third portion that executes a series of ~~local tradeoffs~~Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space having fewer dimensions than the original portfolio performance space to produce ~~on the solution subset to result in~~ a resulting solution subset having a fewer number of points than the initial solution subset; and

a fourth portion, and after ~~executing the series of local tradeoffs in performance metric space on the solution subset to result in the resulting solution~~

~~subset~~the resulting solution subset has been produced by the third portion, the fourth portion applies ~~further~~ additional user-~~-~~specified constraints to the resulting solution subset to produce a final selection, the ~~resulting solution subset~~final selection being used in investment decisioning.

35. (Currently Amended) A method for multi-objective portfolio ~~optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem~~analysis and decision-making using visualization techniques, the method sequentially comprising:

generating a non-dominated solution set ~~in a space~~comprising an efficient frontier in an original portfolio performance space having at least three-dimensions using one of an evolutionary algorithm and optimization processing by using a computing device;

~~applying~~ imposing a ~~first set of~~sequence of user-specified constraints in at least one of the original portfolio performance space and a portfolio configuration space to reduce ~~the~~ solutions in the non-dominated solution set to an initial solution subset; and

executing a series of ~~local tradeoffs~~Pareto filters in a user-specific order on regions of a lower dimensional portfolio performance space having fewer dimensions than the original portfolio performance space to produce ~~on the solution subset to result in~~ a resulting solution subset having a fewer number of points than the initial solution subset, ~~the local tradeoffs being performed in a lower dimension performance space as compared to the space, and~~ the resulting solution subset being used in investment decisioning; and

wherein the executing the ~~series~~ sequence of ~~local tradeoffs~~Pareto filters is performed in performance configuration space; and

wherein after executing the ~~series~~ sequence of ~~local tradeoffs~~Pareto filters in performance configuration space ~~on the solution subset to result in the resulting solution subset~~, the method further includes the steps of:

applying portfolio configuration metrics based on ~~the~~ a plurality of asset allocations in a portfolio; and

comparing portfolio configuration metrics between a plurality of portfolios.